

AMENDMENTS TO THE SPECIFICATION

Please replace the abstract with the following:

The present invention provides industrial scale expanded bed adsorption process for fractionation and isolation of bio-molecules from fluids, preferably proteins from milk and whey, in a cost-effective manner. This is accomplished by operating the expanded-bed column at high temperatures of at least 40°C, combined with applying flow rates greater than ~~1,500~~ 1,500 cm/hour.

Please replace the paragraph beginning at page 3, line 25 with the following:

c) applying a volume of said bio-molecule-containing fluid having a temperature of at least 40°C to a chromatographic column, such as an expanded bed adsorption column, comprising an adsorbent, at a linear flow rate of at least ~~1,500~~ 1,500 cm/hour;

Please replace the paragraph beginning at page 4, line 2 with the following:

The present investigators provide herein evidence for that the combination of high operating temperature and high flow rate applied upon loading of the bio-molecule-containing fluids onto a chromatographic column and significantly improves the adsorptive capacity and the productivity of the adsorbent of the chromatographic column, while at the same time inhibit the microbial growth and keep the biomolecule intact. As can be derived from example 1, operating a chromatographic process at a temperature of 50°C instead of the conventional 10°C results in doubling of the adsorbent capacity of the adsorbent, i.e. the amount (g) of Lactoferrin adsorbed to 1 l of adsorbent was doubled. Furthermore, upon operating the chromatographic process at 50°C and with flow rates higher than conventional ones (from ~~1,500~~ 1,500 cm/hr to ~~3,000~~ 3,000 cm/hr), the volume of the bio-molecule-containing fluid that can be loaded onto the column increases significantly, while still achieving the same high adsorbent capacity (example 2). Thus, upon increasing the linear flow rate during loading of the bio-molecule-containing fluid onto the column, the productivity increases. Productivity might be regarded as the amount of bio-molecule that can be adsorbed to 1 litre of adsorbent in 1 hour. As can be seen from example 3, the process time is dramatically reduced upon operating the chromatographic process at higher temperatures, such as 50° in combination with higher linear flow rate, such as ~~2,100~~ 2,100 cm/hr.

Please replace the paragraph beginning at page 5, line 9 with the following:

c) applying a volume of said bio-molecule-containing fluid having a temperature of at least 40°C to a chromatographic column, such as preferably an expanded bed column, comprising an adsorbent, said chromatographic column is operated with a linear flow rate of at least ~~1,500~~ 1,500 cm/hour;

Please replace the paragraph beginning at page 9, line 30 with the following:

One major advantage of the invention relates to the utility of high flow rates, rather than the conventional ones, which amount to about 200 cm/hr. According to the present invention, linear flow rates of from about ~~1,500~~ 1,500 to ~~12,000~~ 12,000 cm/hr may be applicable during loading of the bio-molecule-containing fluid to the chromatographic column. Preferably, the linear flow rate may be operated within the range from ~~1,800~~ 1,800 to ~~10,000~~ 10,000 cm/hr, such as within the range of ~~2,000~~ 2,000 to ~~10,000~~ 10,000 cm/hr, such as typically at linear flow rates of about 3000 to 7000 cm/hr.

Please replace the paragraph beginning at page 20, line 31 with the following:

For both experiments 31801 of the skimmed milk was loaded onto the column with a linear flow rate of ~~1,500~~ 1,500 cm/hr.